

# Work Order ID 66480

February 15, 2011 2:03:04 PM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/11 Start Qty: 1.00



Cust Item ID:

Required Date: 3/03/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: CD

Date: 11/02/15

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2580

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG003

ml 11 03 10 (1)  
for BG 11-3-9

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

DP

71-2-23

B66480

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

**Accept**

[illegible]**Setup Start**

**Stop**

[REDACTED]

**Cust Item ID:**

**Required Date: 3/03/11      Req'd Qty: 1.00**

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

**Stop**

**Insp.  
Stamp**

120

0.00

100

## Skidtubes

## Skidtubes

## Memo

0.00

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QSI 002

130

QC5- Inspect part completeness to step on W/O

0.00

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QC

### Quality Control

## Memo

0.00

11-3-

1 0 BE 11/03/02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

**Work Order ID 66480**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/11 Start Qty: 1.00



Cust Item ID:

Required Date: 3/03/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R□□□ Aluminum Rod

11/03/02

BE 11/03/02

2-Grind welds on step as per Dwg D2580

BE 11/03/02

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x 17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

BB

11/03/02

4-Drill holes for wearplates using DT 8217 &amp; DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

BB

11/03/03

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

150

0.00



QC

QC10- Inspect visual per QSI004- ground welds

Memo

0.00

Sub 03/04

40

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 66480**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/11 Start Qty: 1.00



Cust Item ID:

Required Date: 3/03/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

170

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

1 BL 11-3-7

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME:  
OVEN TEMPERATURE:  
FINISH TIME:M 115951.  
1:05  
320  
1:35

1 BL 11-3-7

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**Work Order ID 66480**

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Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/11 Start Qty: 1.00



Cust Item ID:

Required Date: 3/03/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 4 11/03/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

**Work Order ID 66480**

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Item ID: D205-634-041

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Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 2/15/11 Start Qty: 1.00



Cust Item ID:

Required Date: 3/03/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

200

0.00



HandFinish

0.00

Hand Finishing

**Memo**

1-Install inserts &amp; wearplates &amp; Gaskets as per Dwg. D2580. Use a drop of

Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 1116040Sikaflex expire date: 11/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step &amp; Aft Cap with

Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 1116040Sikaflex expire date: 11/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 1116402

1 9 22 11/03/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 66480**

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Item ID: D205-634-041

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

8/11/03/09

(X)

220

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD205-634-041

Location: \_\_\_\_\_

PPP Rev: 73

11/3/10

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/3/10 MF 11-03-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 1

Work Order ID: 66480

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 2/15/11

Required Date: 3/03/11

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30  
 KJ IPP Rev P 10.02.19  
 per PAR09-043 EC verified by:DD  
 IPP Rev. O 06.02.28 Added paperwork EC  
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q  
 10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4202-1 		Manufactured	No			140	Each	206.0000	20	20			
Spacer					66121					20		11/08/02	
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>206</div> <div></div> </div>													
<div> <div>64608</div> <div>6</div> <div></div> </div>													
<div> <div>65529</div> <div>200</div> <div></div> </div>													
D2580-1 		Manufactured	No			110	Each	1.0000	1	.1			
205 Skidtube bent detail													
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>ST046</div> <div>1</div> <div></div> </div>													
<div> <div>59856</div> <div>1</div> <div></div> </div>													
D2576-3 		Manufactured	No			140	Each	52.0000	1	1			
Step (maching detail)													
<div> <div>Location</div> <div>Loc Qty</div> <div>Loc Code</div> </div>													
<div> <div>LG</div> <div>52</div> <div></div> </div>													
<div> <div>46661</div> <div>4</div> <div></div> </div>													
<div> <div>52215</div> <div>48</div> <div></div> </div>													

DP 11-2-23

BE 11-03-02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

February 15, 2011 2:03:03 PM

Work Order ID: 66480

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 2/15/11

Required Date: 3/03/11

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

200

Each

42.0000

1

1



11/03/08

Cap

Location

Loc Qty

Loc Code

FP6

1

56613

1

ST026

41

50513

1

50770

28

51539

2

53791

10

X1

AN3-5A

Purchased

No

200

Each

1,052.000

2

2



11/03/08

Bolt

Location

Loc Qty

Loc Code

ST350

1052

115016

352

115371

500

116632

200

X2

AN960JD10L

NAS1149D0332J

Purchased

No

200

Each

64.0000

2

2



11/03/08

Washer

Location

Loc Qty

Loc Code

ST335

64

104885

16

109632

16

18235

32

M117010

X2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

February 15, 2011 2:03:04 PM

Work Order ID: 66480

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 2/15/11

Required Date: 3/03/11

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130 Purchased No

200 Each

1,858.000 50

50



JH 11/03/08

Insert

Location

Loc Qty

Loc Code

FP

21

1116864

V50

115079

21

ST282

1837

105855

16

111529

48

113238

17

115502

500

115581

256

116800

1000

AN3C4A

Purchased No

200 Each

1,120.000 50

50



JH 11/03/08

BOLT

Location

Loc Qty

Loc Code

ST350

1120

115300

25

116075

361

116704

734

V50

AN960C10L

NAS1149C0332 R Purchased

No

200 Each

25.0000 50

50



JH 11/03/08

washer

Location

Loc Qty

Loc Code

ST245

25

111630cl

X50

107534

25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

February 15, 2011 2:03:04 PM

Work Order ID: 66480

Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/15/11

Required Date: 3/03/11



Start Qty: 1.00

Required Qty: 1.00

D3566-13	Manufactured	No	200	Each	34.0000	1	1
							<u>HL 11/03/08</u>
Gasket							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP014	34	
64070	17	
66137	17	

X1

D3566-5	Manufactured	No	200	Each	15.0000	1	1
							<u>HL 11/03/08</u>
Gasket							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP015	15	
63574	1	
66146	14	

X1

D3566-1	Manufactured	No	200	Each	33.0000	2	2
							<u>HL 11/03/08</u>
Gasket							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP015	33	
57715	1	
66040	20	
66129	12	

X2

D3564-11	Manufactured	No	200	Each	11.0000	1	1
							<u>HL 11/03/08</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP019	11	
65159	11	

B06554 X1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

February 15, 2011 2:03:04 PM

Work Order ID: 66480

Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/15/11



Required Date: 3/03/11

Start Qty: 1.00



Required Qty: 1.00

D3564-13      Manufactured      No      200      Each      25.0000      1      1  
            Al 11/03/08  
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP17	25	B65522
59660	1	
62229	2	
66136	22	

D3564-9      Manufactured      No      200      Each      4.0000      1      1  
            Al 11/03/08  
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP	1	B66153
55334	1	
FP19	3	
62238	3	

D3564-5      Manufactured      No      200      Each      20.0000      1      1  
            Al 11/03/08  
Wearshoe

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	1	
34806	1	
FP19	2	
57525	1	
58709	1	
FP-19	17	
63575	1	
65058	1	
66148	15	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

February 15, 2011 2:03:04 PM

Work Order ID: 66480



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 2/15/11

Required Date: 3/03/11

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

200

Each

1,031.000

16

16



O-Ring, 205 Skidtube



11/03/08

Location

Loc Qty

Loc Code

FP

543

55546

19

58191

12

59358

12

65518

500

fpa

488

61762

488

11/03/08

D2594-1

Manufactured No

200

Each

327.0000

16

16



Plug, 205 Skidtube



11/03/08

Location

Loc Qty

Loc Code

FP

183

42807

112

55002

71

FP14

144

58434

15

65980

129

11/03/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification- Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART****RELEASED**  
07.06.28 #**DEO ATTACHED**

DESIGN #	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

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WORK ORDER  
NO. 66480  
CL 11/02/15

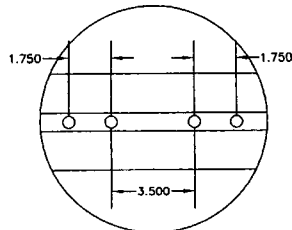
**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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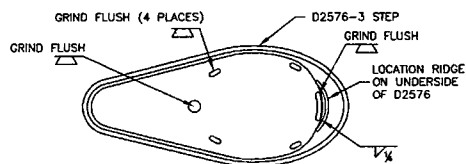
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**DETAIL A**  
SCALE 5:24

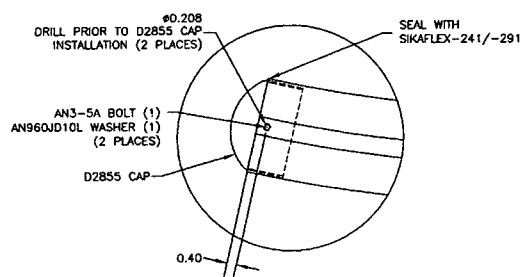


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07.06.28

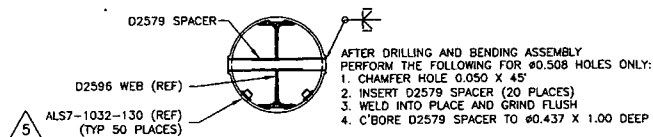
**DETAIL B**  
SCALE 5:24



**DETAIL C**  
SCALE 5:24



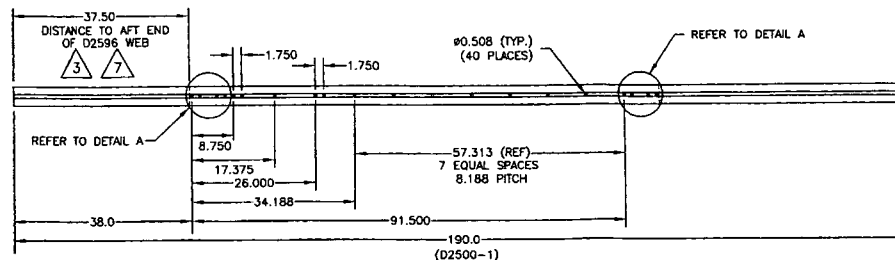
**SECTION D-D**  
SCALE 5:24



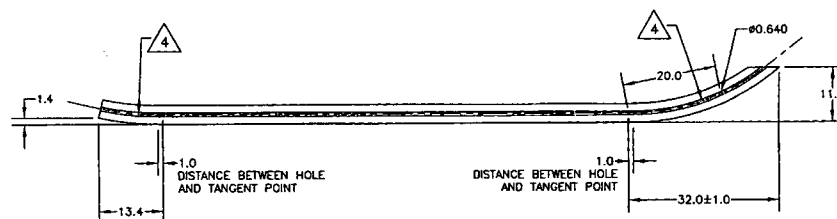
**D2580-041 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

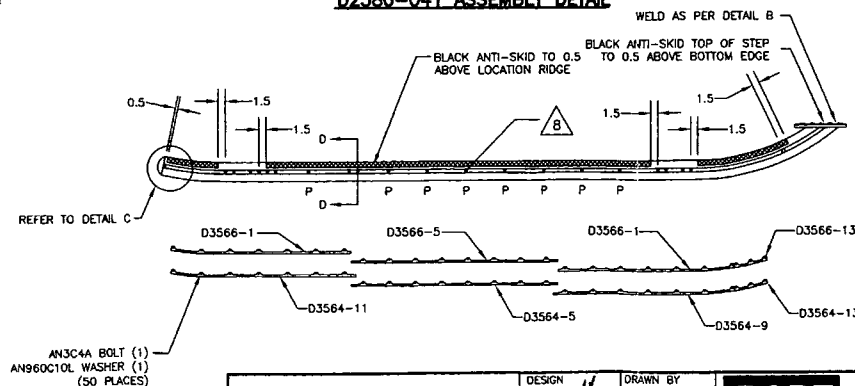
**D2580-1 DRILLING DETAIL**



**D2580-1 BENDING AND CUTTING DETAIL**



**D2580-041 ASSEMBLY DETAIL**

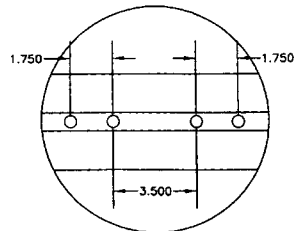


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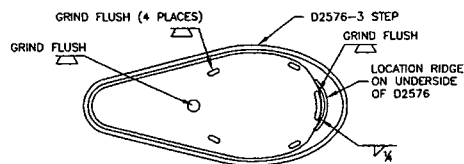
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DESIGN	DRAWN BY	<b>DART</b>	DART AEROSPACE LTD.
CHECKED	APPROVED	DRAWING NO.	REV. D
DATE		D2580	SHEET 2 OF 3
		TITLE	SCALE
		205 SKIDTUBE ASSEMBLY	1:24

**DETAIL E**  
SCALE 5:24



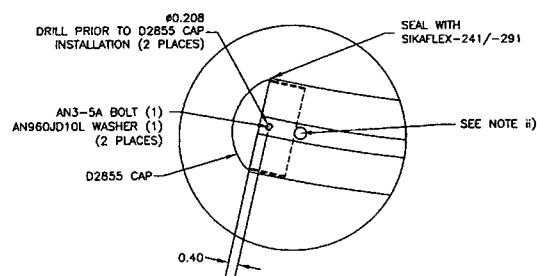
**DETAIL F**  
SCALE 5:24



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07-06-18

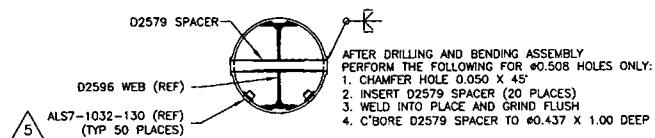
**DEO ATTACHED**

**DETAIL G**  
SCALE 5:24

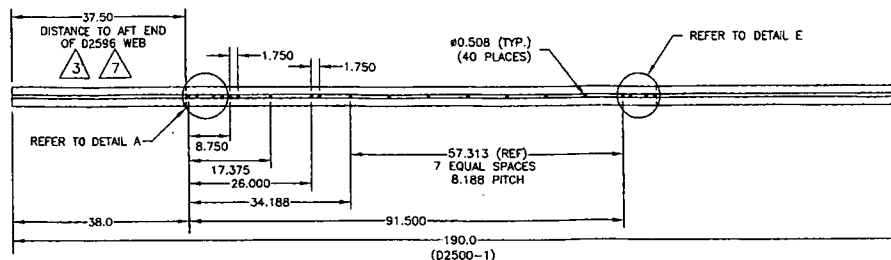


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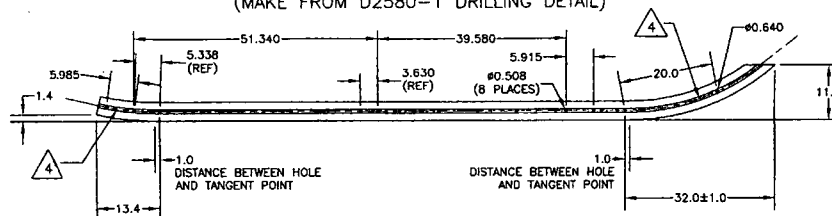
**SECTION H-H**  
SCALE 5:24



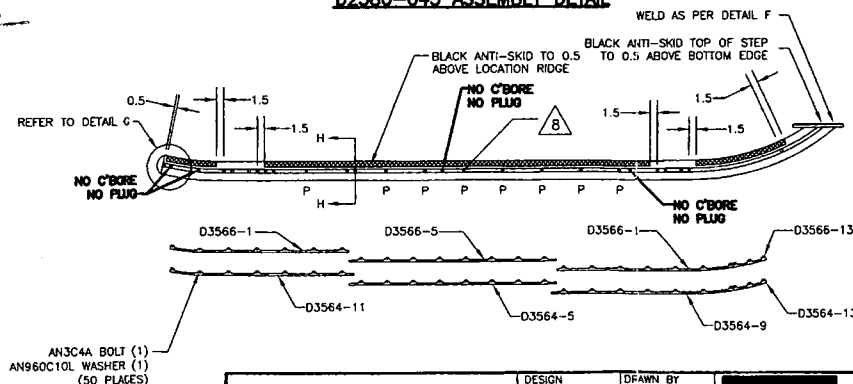
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



**D2580-045 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE  
WITH THE SPACER AT THIS LOCATION

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DESIGN RH	DRAWN BY RH	<b>DART</b> DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA	REV. D
CHECKED H	APPROVED H	DRAWING NO. D2580	SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

DRAWING NO. D2580	TITLE 205 SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2580-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>R</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 10.09.22	DATE 10.11.04	DATE 10.11.04	DATE 10/11/04		DATE 10.11.04		

**PURPOSE:**

CHANGE ALL WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

WAS

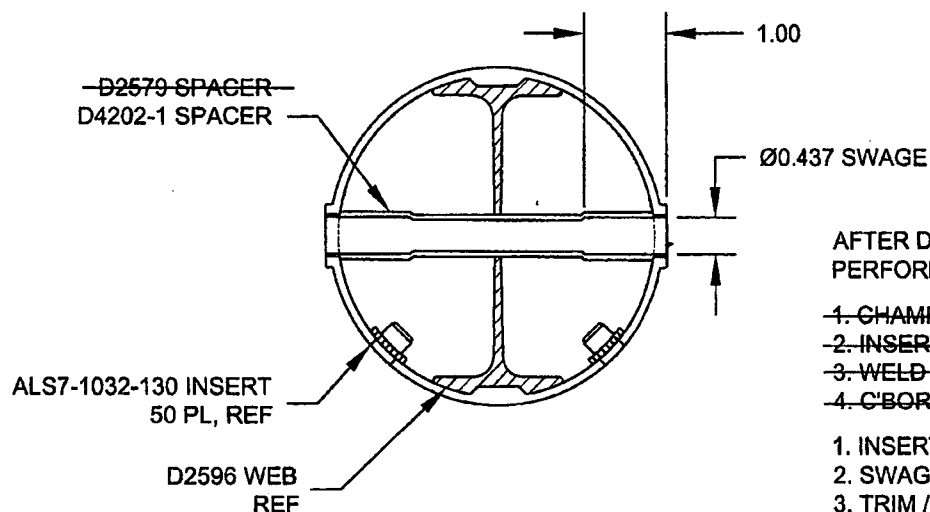
QTY	QTY	PART NUMBER	DESCRIPTION
-041	-045		
20	24	D2579	CROSS BOLT SPACER

IS

20	24	D4202-1	SPACER
----	----	---------	--------

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SECTION D-D & SECTION H-H ARE AMENDED AS FOLLOWS:



**SECTION D-D**  
NOT TO SCALE

**SECTION H-H**  
NOT TO SCALE

**RELEASED**  
2010-11-18  
*MP*

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

1. INSERT D4202-1 SPACER, 20 PL (-041) OR 24 PL (-045)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

